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(54) Title: IMPROVED HELPER DEPENDENT VECTOR SYSTEM FOR GENE THERAPY

(57) Abstract

The present invention features helper–dependent adenoviral vector elements, and helper adenoviral elements, that enhance the production and isolation of helper–dependent adenoviral vectors. Such elements include a modified packaging signal having low homology to, and preferably less activity than, a wild–type packaging signal, an E4 non–coding segment directly joined to the 5' ITR that confers a selective advantage, and stuffer region(s) that provide a helper–dependent adenoviral vector with a GC content of about 50 % to about 60 %. The modified packaging signal is preferably used in a helper virus to decrease recombination and generation of the virus. The E4 non–coding segment and the stuffer region(s) are preferably used in a helper–dependent adenoviral vector to provide the vector with a growth advantage over a helper virus.